

REFERRAL TESTS

TEST NAME	REF. LAB	TUBE TYPE/VOL.	SPECIMEN REQUIREMENTS AND SPECIAL INSTRUCTIONS
17-KETOSTEROIDS	ES	24HR URINE	50.0 (5.0) mL aliquot of 24-hour urine. Boric acid preservative. FREEZE.
17-OH-CORTICOSTEROIDS	ES	24HR URINE	50.0 (5.0) mL aliquot of 24-hour urine. Boric acid preservative. FREEZE.
17-OH-PROGESTERONE, ADULT	LC	RED, 5.0mL	1.0 (0.3) mL serum or EDTA or heparin plasma. REFRIGERATE.
17-OH-PROGESTERONE, PEDIATRIC	ES	RED, 5.0mL	1.0 (0.5) mL serum. Separate within 1 hr. FREEZE
5-HIAA	ES	24HR URINE	50.0 (5.0) mL aliquot of 24-hour urine. Boric Acid preservative. Adjust Ph to 4.0 with acetic acid. FREEZE.
5'NUCLEOTIDASE	LC	RED, 5.0mL	2.0 (0.5) mL serum. Refrigerate.
AChR BINDING ABS	MML	RED, 3.0 mL	2.0 (0.3) mL serum. REFRIGERATE.
ACID PHOSPHATASE, TOTAL AND PROSTATIC	LC	RED, 5.0 mL	2.0 (0.6) mL serum. FREEZE. Sample MUST be separated within 1 hr of collection. Avoid hemolysis.
ACYLCARNITINE PROFILE	LC	GREEN, 3.0mL	1.0 mL min heparinized plasma. Freeze.
ADENOSINE DEAMINASE (ADA), FLUID	MML	CSF/PLEURAL	Pleural, thoracentesis, or CSF fluids. Misc request. Freeze.
ADENOVIRUS ABS	LC	RED, 3.0 mL	1.0 (0.5) mL serum. REFRIGERATE.
ADRENOCORTICO HORMONE (ACTH)	ES	LAV, 4.0 mL	1.0 (0.3) mL EDTA plasma. Separate immediately. FREEZE.
ALDOLASE	LC	RED, 5.0mL	2.0 (0.5) mL serum or citrate, oxalate, fluoride, EDTA, or heparin plasma. REFRIGERATE. Hemolvzed specimen not acceptable.
ALDOSTERONE, ADULT	LC	RED, 5.0mL	2.0 (0.5) mL serum. REFRIGERATE. No isotopes within 24 hrs. Normal sodium diet for 2-4 weeks. Contact lab for special collection instructions. Order on patients greater than 21 years of age.

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ALDOSTERONE, PEDIATRIC	ES	RED, 5.0mL	2.0 (0.5) mL serum. FREEZE. Separate within 1 hr. Do not thaw and refreeze. Order only on patients 21 years of age or less.
ALDOSTERONE, URINE	LC	24HR URINE	10 mL aliquot of a 24 hr urine. Boric acid preservative. No isotopes within 24 hrs. Normal sodium diet for 2-4 weeks. REFRIGERATE
ALKALINE PHOSPHATASE ISOENZYMES	CNI	RED, 5.0 mL	2.0 (0.5) mL serum. FREEZE. Hemolyzed specimen not acceptable.
ALKALINE PHOSPHATASE, BONE SPECIFIC	CNI	RED, 5.0 mL	1.0 (0.3) mL serum. FREEZE.
ALPHA SUBUNIT	ES	RED, 3.0 mL	1.0 (0.5) mL serum. Separate within 1 hr. FREEZE
ALPHA-1-ANTITRYPSIN	LC	RED, 5.0 mL	1.0 (0.5) mL serum. REFRIGERATE.
ALPHA-1-ANTITRYPSIN PHENOTYPE	CNI	RED, 3.0 mL	1.0 (0.5) mL serum. REFRIGERATE. Overnight fasting preferred.
ALPHA-1-ANTITRYPSIN,STOOL	LC	STOOL	Walnut-size specimen of STOOL. Sample must remain FROZEN. If more than 1 BM is required to obtain adequate sample, FREEZE sample between collections.
ALUMINUM	LC	RED, 5.0 mL	2.0 (0.3) mL serum. AMBIENT.
AMINO ACID, PLASMA	LC	GREEN, 3.0 ml	2.0 (1.0) mL heparinized plasma. FREEZE.
AMINO ACID, URINE	LC	RANDOM URINE	5 ml minimum random urine. FREEZE.
AMINOLEVULINIC ACID DELTA, RANDOM	LC	NO LIGHT RANDOM URINE	10.0 mL aliquot of random urine. Add 0.5 mL of 33% glacial acetic acid. Do not use first morning specimens, late evening (after 8PM) specimens or specimens collected following excessive fluid intake. FREEZE. PROTECT FROM LIGHT.
AMINOLEVULINIC ACID DELTA, TIMED	LC	NO LIGHT 24HR URINE	25.0 mL aliquot of a well mixed 24 hr urine collected in 30 mL of 33% glacial acetic acid. FREEZE. PROTECT FROM LIGHT. pH must be <6.

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AMIODARONE	LC	NO GEL RED, 3.0 mL	2.0 (0.6) mL serum or EDTA or heparin plasma. REFRIGERATE.
AMITRIPTYLINE (ELAVIL)	CNI	NO GEL RED, 10 mL	4.0 (1.5) mL. serum. REFRIGERATE. Separate ASAP. DO NOT use gel barrier tube.
AMOEBIC ANTIBODIES	LC	RED, 3.0 mL	1.0 mL serum. REFRIGERATE. Avoid gross hemolysis and lipemia.
AMOXAPINE (ASENDIN)	LC	NO GEL, RED, 6.0 mL	3.0 mL serum. AMBIENT. DO NOT use gel barrier tube.
ANDROSTENEDIONE	ES	RED, 3.0 mL	0.5 (0.1) mL serum. Separate within 1 hour. FREEZE.
ANGIOTENSIN CONVERTING ENZYME (ACE)	LC	RED, 5.0mL	2.0 mL serum or heparinized plasma. REFRIGERATE.
ANGIOTENSIN CONVERTING ENZYME (ACE), CSF	LC	CSF	1.0 (0.3)MI CSF. Freeze.
ANTICARDIOLIPIN ABS	LC	RED, 3.0 mL	1.0 mL serum. REFRIGERATE. Avoid hemolysis, icterus and lipemia.
ANTI-DNASE B	LC	RED, 3.0 mL	1.0 (0.4) mL serum. REFRIGERATE.
ANTI-EPIDERMAL ABS	MML	RED, 5.0 ML	2 ml serum. AMBIENT.
ANTI-HISTONE	LC	RED, 5.0 ML	1.0 (0.5) ml. AMBIENT.
ANTI-MITOCHONDRIAL AB.	LC	RED, 5.0mL	2.0 mL serum. REFRIGERATE.
ANTI-NEUTRO.CYTO. AB	SLI	RED, 5.0mL	2.0 (1.0)mL serum. REFRIGERATE.
ANTI PARIETAL CELL AB	LC	RED, 5.0ML	1.0 (0.3) ml serum. FREEZE. Can be refrigerated for 48 hrs.

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ANTIIPHOSPHOLIPID SYNDROME ABS	SLI	BLUE, 7.0 mL and RED, 7.0 mL	2.0 (1.0) mL platelet-poor citrated plasma in TWO separate tubes labeled "citrated plasma" AND 2.0 (0.8) mL serum labeled "serum". FREEZE. CALL LAB FOR SPECIAL COLLECTION INSTRUCTIONS!!!
ANTI-PLATELET AB, DIRECT	CNI	LAV, 7mL	7.0 (4.0) mL whole blood EDTA tube. AMBIENT.
ANTI-SMOOTH MUSCLE AB	LC	RED, 5.0mL	2.0 (0.2) mL serum. REFRIGERATE.
ANTI-THYROGLOBULIN ABS	ES	RED, 3.0 mL	0.5 (0.1) mL serum. Separate within 1 hour. FREEZE.
ANTI-THYROID MICROSOMAL	ES	RED, 3.0 mL	0.5 (0.1) mL serum. Separate within 1 hour. FREEZE.
ARGININE VASOPRESSIN (ADH)	CNI	LAV, 7mL	4.0 (1.5) mL EDTA plasma. Draw blood in a prechilled lavender-top tube. Transport on ice. Spin immediately and FREEZE. DO NOT thaw.
ASO TITER	LC	RED, 3.0 mL	2.0 (0.3) mL serum. REFRIGERATE. Avoid gross hemolysis and lipemia.
ASPERGILLUS ANTIBODIES	SLI	RED, 3.0 mL	1.0 (0.8) mL serum. REFRIGERATE.
ASPERGILLUS ANTIGEN	MML	RED GEL,7mL	1.5(1.0)MI serum. Use serum separator tube. Centrifuge. Do not open. Refrigerate.
BARTONELLA HENSELAE ANTIBODY PANEL	SLI	RED, 4.0 ml	1.0 (0.5) ml serum. REFRIGERATE.
BETA-2-GLYCOPROTEIN	SLI	RED, 3.0 mL	1.0(0.6) mL serum. Freeze.
BIOTINIDASE DEFICIENCY, SERUM	LABC	RED,5.0 MI	3.0(1.0)MI serum. Freeze.
BORDETELLA PERTUSSIS SMEAR, DFA	LC	SLIDES	4 slides from nasopharyngeal swab. AMBIENT. Do not fix.
BRUCELLA ABORTUS IGG	LC	RED, 5.0mL	0.3 (0.1) mL serum. REFRIGERATE.

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BRUCELLA ABORTUS IGM	LC	RED 5.0 ML	0.3 (0.1) ml serum. REFRIGERATE.
CANDIDA ANTIGEN	LC	RED 5.0 OR CSF	1.0 (0.4) ml serum or CSF. REFRIGERATE.
C1 ESTERASE INHIBITOR	LC	ICE RED, 5.0 mL	Place sample on ice IMMEDIATELY after collection. Transport to lab on ice. Chill sample on ice during clotting. Spin and FREEZE 2.0 ml serum.
C1 ESTERASE INHIBITOR ACTIVITY	LC	RED, 3.0 mL	0.3 (0.1) ml serum or EDTA plasma. FREEZE.
C1Q IMMUNE COMPLEX	LC	RED, 3.0 mL	1.0(0.1) ml serum. FREEZE.
C1Q COMPLEMENT, QUANT.	LC	ICE RED, 5.0 mL	Place sample on ice IMMEDIATELY after collection. Transport to lab on ice. Spin in refrigerated centrifuge. 1.0 (0.5) mL serum. FREEZE at -70 C.
CA 27.29	NI	RED, 5.0 mL	2.0 (0.5) mL serum. REFRIGERATE.
CALCITONIN	CNI	RED, 7.0 mL	3.0 (1.0) mL serum. Freeze. Overnight fasting is preferred.
CALCITONIN, PEDIATRIC	ES	RED, 2.0 ml	1.0 (0.5) ml serum. Separate within 1 hour. FREEZE.
CALCIUM, IONIZED	LC	RED GEL, 10.0 mL	4.0 (1.0) mL serum. Must use gel barrier tube. Do Not open tube. Spin and leave unopened sample at ROOM TEMPERATURE. Avoid hemolysis.
CARBOHYDRATE ANTIGEN 19-9	LC	RED, 5 mls	2.0 (0.5) ml serum or EDTA plasma. REFRIGERATE.
CARNITINE, PLASMA	LC	GREEN, 5.0 mL	2.0 (1.0) mL heparinized plasma. FREEZE.
CAROTENE	LC	NO LIGHT RED, 5.0 mL	2.0 mL serum. FREEZE. PROTECT FROM LIGHT. Patient should be fasting a minimum of 8 hrs and receive no vitamin supplement or foods containing vitamin A or carotene for 24 hrs before testing in patients ages 0-6 months, 48 hrs for older patients.

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CATECHOLAMINE, FRACTIONATED	ES	24HR URINE	50.0 (5.0) mL aliquot of a well mixed 24 hr urine. 6N HCL preservative. FREEZE.
CATECHOLAMINE, FRACTIONATED	CNI	GREEN, 10.0 mL	4.0 (2.5) mL plasma. FROZEN. Call lab for special collection instructions. Samples must be spun down within 15 min of collection.
CATECHOLAMINE, FRACTIONATED	CNI	24HR URINE	10 (5) mL aliquot of a 24 hr urine. Collect in 6N HCL. Maintain pH 1-3. REFRIGERATE. Record volume.
CATECHOLAMINE, TOTAL URINE	ES	24HR URINE	50.0 (5.0) mL aliquot of a well mixed 24 hr urine. 6N HCL preservative. FREEZE.
CELIAC DISEASE PANEL	PRO M	RED, 5.0 ML	2.0 (0.5) mL serum. REFRIGERATE.
CENTROMERE ABS	SLI	RED, 3.0 mL	1.0 (0.5) mL serum. Ambient, refrigerated or frozen.
CERULOPLASMIN	LC	ICE, RED 5.0 mL	1.0 (0.1) mL serum. Draw in chilled tube. Keep specimen on ice while clotting. REFRIGERATE.
CHLAMYDIA GROUP AB, IGG	LC	RED, 5.0 mL	1.0 (0.2) mL serum. REFRIGERATE.
CHLORAMPHENICOL (PEAK)	LC	RED, NO GEL, 5.0 ml	1.0 ml serum. FREEZE
CHLORAMPHENICOL (RANDOM)	LC	RED, NO GEL, 5.0 ml	1.0 ml serum. FREEZE
CHLORAMPHENICOL (TROUGH)	LC	RED, NO GEL, 5.0 ml	1.0 ml serum. FREEZE
CITRATE, URINE	LC	24HR URINE	25.0 mL aliquot of a well mixed 24 hr urine. Collect in 6N HCL. pH must be 1-3. REFRIGERATE.
CLONAZEPAM (KLONOPIN)	LC	NO GEL RED, 5.0 mL	3.0 (1.1) mL serum or EDTA plasma. REFRIGERATE. Collect specimen immediately prior to next dose unless otherwise specified.
CMV ANTIBODIES, IGG & IGM	LC	RED, 5.0 ML	2.0 (1.0) ml serum. AMBIENT.

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CMV ANTIBODIES, TISSUE DONOR	LC	RED, 5.0 ML	1.0 ml serum. AMBIENT.
COMPLEMENT C5	CNI	RED, 3.0 mL	1.0 (0.5) mL serum or EDTA plasma. FREEZE.
COMPLEMENT, TOTAL (CH50)	LC	RED, 5.0 mL	1.0 (0.1) mL serum. Allow to clot 15-30 min. at room temperature. FREEZE.
COMPOUND S (METYRAPONE)	ES	RED, 3.0 mL	1.0 (0.5) mL serum. Post Metyrapone test. FREEZE.
COMPOUND S-SPECIFIC	ES	RED, 5.0 mL	1.0 (0.5) mL EDTA plasma. Separate within 1 hour. FREEZE.
CONGENITAL ADRENAL HYPERPLASIA	ES	RED, 10.0 mL	4.0 (1.8) mL serum. Separate within 1 hour. FREEZE.
COPPER, LIVER TISSUE	MML	BIOPSY	Liver biopsy in trace metal free plastic vial. REFRIGERATE.
COPPER, SERUM	LC	RED, 3.0 mL	1.0 (0.2) mL serum or EDTA plasma. AMBIENT.
CORTISOL, FREE, URINE	ES	24HR URINE	50 (5.0) mL aliquot of a well mixed 24 hr urine. Boric Acid preservative. FREEZE.
COXSACKIE GROUP A ABS	LC	RED, 5.0 mL	1.0 (0.5) mL serum. REFRIGERATE.
COXSACKIE GROUP B ABS	LC	RED, 5.0 mL	3.0 mL serum. REFRIGERATE.
C-PEPTIDE	ES	LAV, 5mL	1.0 (0.5) mL EDTA plasma. Separate immediately. FREEZE.
CRYOFIBRINOGEN, QUAL	LC	GREEN, 5.0 mL	3.0 ml heparinized plasma. AMBIENT.
CYCLIC AMP	ES	24HR URINE	50.0 (5.0) ml of well-mixed 24hr urine. No preservative. FREEZE.

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CYCLIC CITRULLINATED PEPTIDE (CCP)	MML	RED, 3.0 mL	0.5(0.2)MI serum. Refrigerate.
DEOXYCORTICOSTERONE, SERUM	ES	RED, 10.0 mL	3.0 (1.0) mL serum. Separate within 1 hour. FREEZE.
DESIPRAMINE (NORPRAMINE)	LC	NO GEL, RED 5.0 mL	2.0 (0.6) mL serum. DO NOT use gel barrier tube. For therapeutic monitoring, collect sample immediately prior to next dose. REFRIGERATE.
DHEA	ES	RED, 5.0 mL	1.0 (0.2) mL serum. Separate within 1 hour. FREEZE.
DHEA-S	ES	RED, 5.0 mL	0.5 (0.1) mL serum. Separate within 1 hour. FREEZE.
DIHYDROTESTOSTERONE, SERUM	ES	RED, 5.0 mL	1.0 (0.5) mL serum. Separate within 1 hour. FREEZE.
DILANTIN, FREE	CNI	NO GEL, RED 5.0 mL	2.0 (0.7) mL serum. DO NOT use gel barrier tube. REFRIGERATE.
DIPHTHERIA ANTIBODIES POST	SLI	RED, 5.0 mL	1.5 (0.75) mL serum. REFRIGERATE.
DIPHTHERIA ANTIBODIES, PRE	SLI	RED, 5.0 mL	1.5 (0.75) mL serum. REFRIGERATE.
DOXAPRAM	CNI	NO GEL RED, 10 mL	4.0 (1.5) mL serum. REFRIGERATE. Separate ASAP. DO NOT USE GEL BARRIER TUBE.
DOXEPIN (SINEQUAN)	CNI	NO GEL, RED 10.0 mL	4.0 (1.5) mL serum. REFRIGERATE. Separate ASAP. DO NOT USE GEL BARRIER TUBE.
EPSTEIN BARR VIRUS AB PANEL	LC	RED, 10.0 mL	2.0 (1.0) mL serum. AMBIENT.
EPSTEIN BARR VIRUS EARLY ANTIGEN	LC	RED, 5.0 mL	1.0 (0.5) ml serum. AMBIENT.

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ERYTHROPOEITIN	LC	RED, 5.0 mL	1.0 (0.4) mL serum. REFRIGERATE.
ESTRADIOL	ES	RED, 7.0 mL	3.0 (1.0) mL serum. Separate within 1 hour. FREEZE.
ESTROGENS, TOTAL	ES	RED, 7.0 mL	3.0 (1.0) mL serum. Separate within 1 hour. FREEZE.
ESTRONE	ES	RED, 7.0 mL	3.0 (1.0) mL serum. Separate within 1 hour. FREEZE.
ETHOSUXIMIDE	LC	NO GEL RED, 5.0 ML	1.0 (0.3) ml serum or EDTA or heparin plasma. REFRIGERATE. Do not use gel separator tube.
FECAL FAT, QUANT.	LC	SPECIAL CAN	72-hour collection of stool. Obtain special container from Referral Lab. REFRIGERATE entire collection.
FETAL HEMOGLOBIN	LC	AMNIOTIC FLUID	2.0 mL Amniotic fluid. AMBIENT.
FETAL-MATERNAL RATIO	MML	LAV, 1.0 mL	1.0 mL EDTA whole blood. Must arrive at Mayo labs within 72 hrs of collection (preferably 24 hrs). REFRIGERATE.
FLECAINIDE (TAMBOCOR)	LC	NO GEL RED, 4.0 MI	2.0 (0.3) ml serum or heparinized plasma. REFRIGERATE. Do not use gel barrier tube.
FLUCYTOSINE	LC	NO GEL, RED 5.0 mL	2.0 mL serum. DO NOT use gel barrier tube. REFRIGERATE.
FLUPHENAZINE (PROLIXIN)	LC	NO GEL, RED 10 mL	5.0 (2.5) mL serum or heparinized plasma. DO NOT use gel barrier tubes. Must spin and separate sample within 45 min of collection. REFRIGERATE.
FOLATE, RBC	LC	LAV, 2X 2ml	7.0 (4.0) mL whole blood EDTA tube. 2 tubes: 1) FREEZE whole blood in transfer tube , 2) REFRIGERATE whole blood in orig. unopened tube.
FREE KAPPA/LAMBDA LIGHT CHAINS	LC	RED, 5.0 MI	0.5(0.2)mL serum. Ambient.
FRUCTOSAMINE	LC	RED, 5.0 mL	2.0 (1.0) mL serum. FREEZE.

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FRUCTOSE, SEMEN	LC	SEMEN	Use clean screw top container. Specimen must be received in lab within 1 hour of collection. FREEZE. Send entire collection.
FSH, PEDIATRIC	ES	RED, 3.0 mL	1.0 (0.5) mL serum. Separate within 1 hour. FREEZE. Order on patients 21 years of age or less.
FSH, URINE	ES	24HR URINE	50.0 (5.0) mL aliquot of a well mixed 24 hr urine. Boric acid preservative. FREEZE.
FTA-ABS	LC	RED, 5.0 mL	2.0 (0.5) mL serum. REFRIGERATE.
FUNGAL SEROLOGY	LC	RED, 3.0 mL	1.0 mL serum. REFRIGERATE.
G-6-PD	LC	2 LAV, 1.0 mL	1.0 (0.2) mL WHOLE BLOOD. 2 samples!!! REFRIGERATE.
GABAPENTIN (NEURONTIN)	NI	LAV 7.0 ml	3.0 (1.0) EDTA plasma. REFRIGERATE.
GAD 65 AUTOANTIBODIES	ES	RED, 2.0 ml	0.5 (0.1) ml serum. Separate within 1hr. FREEZE.
GALACTOMANNAN	MML		SEE ASPERGILLUS ANTIGEN
GASTRIN	LC	RED, 4.0 mL	2.0 (0.5) mL serum. FREEZE. Patient must be fasting.
GLIADIN ABS, IgA & IgG	SLI	RED, 7.0 mL	2.0 (0.5) mL serum. FREEZE.
GLUCAGON	ES	LAV, ICE, 3.0 mL	1.0 mL plasma. Transport to lab on ice. Spin immediately. FREEZE.
GLYCOHEMOGLOBIN	LC	RED, 5.0 ML	2.0 (1.0) ml serum. REFRIGERATE.
GM1 ABS, EIA	SLI	RED, 5.0 mL	2.0 (0.5) mL serum. REFRIGERATE.

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GROWTH HORMONE	ES	RED, 5.0 ML	1.0 (0.4) ml serum. Separate within 1 hr. FREEZE
GROWTH HORMONE BINDING PROTEIN	ES	RED, 5.0 ml	1.0 (0.1) ml serum. Separate within 1 hour. FREEZE
HAEMOPHILUS INFLUENZA ANTIBODIES, POST	SLI	RED, 3.0 mL	0.5 mL serum. FREEZE.
HAEMOPHILUS INFLUENZA ANTIBODY, PRE	SLI	RED, 3.0 mL	0.5 mL serum. FREEZE.
HALOPERIDOL (HALDOL)	LC	NO GEL RED, 7.0 mL	3.0 (1.1) mL serum or EDTA plasma. REFRIGERATE. No gel barrier tube.
HCG, BETA (PEDIATRIC)	ES	RED, 3.0 mL	1.0 (0.5) mL serum. Separate within 1 hour. FREEZE.
HCG, BETA (TUMOR)	LC	RED, 3.0 mL	1.0 (0.2) mL serum. REFRIGERATE.
HEAVY METAL SCREEN	LC	24HR OR RANDOM URINE	Collect in plastic container, no preservative; 24 hour or random urine; volume: 30 mL. AMBIENT.
HELICOBACTER PYLORI ANTIBODIES PANEL	SLI	RED, 3.0 mL	1.0 (0.3) mL serum. FROZEN.
HEPATITIS B e AB	LC	RED, 3.0 mL	1.0 (0.5) mL serum. REFRIGERATE. ACD, EDTA and Heparin plasma acceptable.
HEPATITIS B e AG	LC	RED, 3.0 mL	1.0 (0.5) mL serum. REFRIGERATE. ACD, EDTA and Heparin plasma acceptable.
HEPATITIS B core, TOTAL, TISSUE DONOR	LC	RED, 3.0 mL	1.0(0.1)ml serum. Refrigerate.
HEPATITIS Bs ANTIGEN, TISSUE DONOR	LC	RED, 3.0 mL	1.5(0.25)ml serum. Ambient.
HEPATITIS B VIRAL DNA	MML	RED GEL, 3.0 mL	0.5 (0.2) mL serum. FREEZE. No hemolysis and lipemia. No anticoagulants.

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HEPATITIS C GENOTYPE	LC	RED, 3.0 mL	1.0 (0.5) ml serum or ACD or EDTA plasma. FREEZE.
HEPATITIS C RNA BY PCR, QUAL REFLEX TO QUANT.	LC	RED, 3.0 mL	3.0 (2.0) mL serum. FREEZE.
HEPATITIS C RNA BY PCR, QUALITATIVE	LC	RED, 3.0 mL	1.0 (0.5) mL serum or plasma (EDTA, ACD, PPT). FREEZE.
HEPATITIS C RNA PANEL	LC	YELLOW, 5.0	2.0 mL plasma. FREEZE.
HEPATITIS C RNA PCR, QUAL. REFLEX TO QUANT.	LC	PPT, 5.0 mL	3.0 (2.0) ml serum, PPT, ACD, or EDTA plasma. FREEZE.
HEPATITIS C RNA PCR, QUALITATIVE	LC	PPT, 3.0 mL	1.0 mL serum or plasma (EDTA, heparin, or PPT). FREEZE.
HEPATITIS DELTA AB	LC	RED, 3.0 mL	2.0 (1.0) ml. REFRIGERATE.
HEPATITIS SUPERQUANT BY NGI	LC	PPT, 5.0 ml	1 ml EDTA plasma or serum. Preferred specimen EDTA PPT tube. Centrifuge and FREEZE.
HERPES SIMPLEX, IGG	LC	RED, 3.0 mL	1.0 (0.5) mL serum. AMBIENT.
HERPES SIMPLEX, IGM	LC	RED, 3.0 mL	1.0 (0.5) mL serum. AMBIENT.
HISTOPLASMA AB BY ID	CNI	RED, 3.0 mL	1.0 (0.5) mL serum. REFRIGERATE.
HISTOPLASMA AB PKG	CNI	RED, 5.0 mL	2.0 (1.0) mL serum. REFRIGERATE. Includes ID and Y&M tests.
HISTOPLASMA AB, Y & M	CNI	RED, 3.0 mL	1.0 (0.5) mL serum or CSF. REFRIGERATE.
HISTOPLASMA ANTIGEN	LC	RED, 5.0 ml /URINE	2.0 (1.0) ml serum or random urine. AMBIENT.

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HIV GENOTYPE	LC	LAV, 2x4 ml	4.0 (2.0) ml EDTA plasma. FREEZE.
HIV PHENOTYPE	LC	LAV, 2x4 ml	4.0 (2.0) ml EDTA plasma. FREEZE.
HIV-DNA, BY PCR	LC	YELLOW, 5.0	5.0 (1.5) mL ACD whole blood. AMBIENT.
HLA B5701	LC	LAV, 4.0 mL	3.0 ml EDTA whole blood. AMBIENT.
HOMOCYSTEINE, PLASMA	LC	LAV ICE, 4.0ML	2.0(1.0)mL EDTA or heparinized plasma. Send on ice. Separate immediately. Refrigerate.
IBD SEROLOGY 7	PROMETHEUS	RED, 5.0 ML	2.0(0.5) ml serum. Refrigerate.
IGE	LC	RED, 3.0 mL	1.0 (0.5) ml serum. REFRIGERATE.
IGF-1/SOMATOMEDIN C, ADULT	LC	RED, 3.0 mL	1.0 (0.5) mL serum or EDTA plasma. REFRIGERATE. Order on patients greater than 21 years of age.
IGF-1/SOMATOMEDIN C, PEDIATRIC	ES	RED, 3.0 mL	1.0 (0.3) mL serum. FREEZE. Separate within 1 hour. Order only on patients 21 years of age or less.
IGF BINDING PROTEIN-3 (IGFBP-3)	EE	RED, 3.0 mL	1.0(0.25)ml) serum. Separate within 1 hour. Freeze.
IGG, CSF	LC	CSF	2.0 (0.5) ml CSF. FREEZE
IGG INDEX & SYNTHESIS RATE	LC	RED,5mL/ CSF 1mL	2.0mL serum and 1mL CSF. Refrigerate.
IgG SUBCLASSES	SLI	RED, 5.0 mL	2.0 (0.5) mL serum. REFRIGERATE.
IMIPRAMINE (TOFRANIL)	LC	NO GEL RED, 7.0 mL	2.0 (0.6) mL serum or EDTA plasma. REFRIGERATE. Separate ASAP. DO NOT USE GEL BARRIER TUBE.

REFERRAL TESTS

TEST NAME	REF. LAB	TUBE TYPE/VOL.	SPECIMEN REQUIREMENTS AND SPECIAL INSTRUCTIONS
INFLUENZA AB PANEL	SLI	RED, 3.0 mL	1.0 (0.5) mL serum. REFRIGERATE.
INSULIN	ES	RED, 3.0 mL	1.0 (0.5) mL serum. FREEZE. Separate within 1 hour.
INSULIN, FREE AND TOTAL	ES	RED, 6.0 mL	3.0 (1.0) mL serum. Separate within 1 hour. FREEZE.
INSULIN, HUMAN ANTIBODIES	ES	RED, 3.0 mL	0.5 (0.1) ml serum . Separate within 1 hour. FREEZE.
INTRINSIC FACTOR BLOCKING ANTIBODIES	LC	RED, 5.0 mL	2.0 (0.5) mL serum. REFRIGERATE. No Vit. B12 therapy within one week of sample collection.
IRON, 24 HR URINE	CNI	24HR URINE	20 mL aliquot of a well mixed 24 hr urine. REFRIGERATE. No preservatives.
IRON, LIVER TISSUE	MML	BIOPSY	Liver biopsy in metal free plastic vial. REFRIGERATE.
IRON, LIVER TISSUE	MML	BIOPSY	Liver biopsy in metal free plastic vial. REFRIGERATE.
ISLET (BETA) CELL AB	LC	RED, 3.0 mL	1.0 (0.5) mL serum. AMBIENT.
JO-1 ANTIBODY, IgG	SLI	RED, 3.0 mL	1.5 mL serum. REFRIGERATE.
KEPPRA			SEE LEVETIRACETAM.
KIDNEY STONE FORMATION PANEL	LC	24HR URINE	2- 100 ml aliquots of 24hr urine. No preservative. FREEZE.
L/S RATIO-PG	LC	FLUID PROTECT FROM LIGHT	8.0 (4.0) mL Amniotic fluid. Spin sample at 500 x g for 3 min. Remove supernatant. FREEZE. PROTECT FROM LIGHT. Blood and meconium will interfere with test. Do not leave sample at room temp.
LAMOTRIGINE (LAMICTAL)	LC	NO GEL, RED 5.0 ml	2.0 (0,6) ml serum or EDTA plasma. No gel separator tube. AMBIENT.

REFERRAL TESTS

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LATEX SPECIFIC IGE PANEL	LC	NO GEL, RED 5.0 ml	2.0 ml serum. No gel separator tube. AMBIENT.
LDH ISOENZYMES	LC	RED, 3.0 mL	3.0 (0.1) ml serum. AMBIENT.
LEAD PANEL, PEDIATRIC	LC	LAV, 2.0	2.0 (0.3) ml EDTA whole blood. AMBIENT. Includes FEP, ZEP.
LEAD, ADULT	LC	LAV, 4.0 mL	4.0 (0.2) ml whole blood EDTA. AMBIENT.
LEAD, URINE	LC	24HR URINE	20.0 ml aliquot of a well mixed 24 hr urine. Collect in a lead free container with 6N HCL preservative. Record volume. REFRIGERATE.
LEGIONELLA ABS, TOTAL	LC	RED, 5.0 mL	2.0 (1.5) mL serum. REFRIGERATE.
LEGIONELLA ANTIGEN BY DFA	LC	EXUDATE/BI OPSY	Tissue or lower respiratory tract secretions in a sterile screw-top container. REFRIGERATE.
LEGIONELLA ANTIGEN, URINE	LC	RANDOM URINE	5.0 mL urine. REFRIGERATE.
LEGIONELLA SPECIES CULTURE	LC	EXUDATE/BI OPSY	Lung tissue, other body tissue, pleural fluid, transtracheal aspirate, lung exudate acceptable. Send 1.0 mL fluid or 1cc tissue. REFRIGERATE. 50 mL cooling tower/air conditioner water also acceptable.
LEPTOSPIRA ABS	LC	RED, 3.0 mL	1.0 (0.5) mL serum. REFRIGERATE.
LEVETIRACETAM (KEPPRA)	LC	RED, 3.0 mL	1.0(0.2)ml serum, EDTA or heparinized plasma. No gel separator tubes. Ambient.
LH, URINE	ES	24HR URINE	50.0 (5.0) mL of a well mixed 24 hr urine. Boric acid preservative. FREEZE.
LIDOCAINE, SERUM	LC	RED, 3.0 mL	1.0(0.3) ml serum. Freeze.
LIVER-KIDNEY MICROSOMAL ANTIBODY	SLI	RED, 3.0 mL	1.0 (0.5) mL serum. REFRIGERATE.

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LUTEINIZING HORMONE, PEDIATRIC	ES	RED, 3.0 mL	1.0 (0.5) mL serum. FREEZE. Separate within 1 hour. Order only on patients 21 years of age or less.
LYME DISEASE AB PANEL	LC	RED, 5.0 mL	2.0 (0.2) mL serum. REFRIGERATE.
LYMPHOGRANULOMA VENERUM ABS	LC	RED, 3.0 mL	1.0 (0.5) mL serum. REFRIGERATE.
LYSOZYME-MURAMIDASE	LC	RED, 3.0 mL	1.0 (0.5) mL serum. FREEZE.
MAG ANTIBODIES, IgM	SLI	RED, 3.0 mL	1.0 (0.2) mL serum. REFRIGERATE.
MENINGOENCEPHALOMYELITIS PANEL, CSF	LC	CSF	3.0 (2.0) mL CSF. REFRIGERATE.
MENINGOENCEPHALOMYELITIS PANEL, SERUM	LC	RED, 5.0 mL	5.0 (4.0) serum. REFRIGERATE.
METANEPHRINES, FRACT. PLASMA	MML	2-4 .0 ml LAV	4 ml EDTA plasma. FREEZE.
METANEPHRINES, FRACT. URINE	LC	24HR URINE	100.0 mL of a well mixed 24 hr urine. Collect in 6N HCL. Record volume. REFRIGERATE. pH must be less than 3. No caffiene before or during collection. Monamine oxidase inhibitors should be discontinued at least 1 wk prior to beginning collection.
METANEPHRINES, TOTAL	ES	24HR URINE	50.0 (10.0) mL of a well mixed 24 hr urine. Collect in 6N HCL. FREEZE. Call lab for dietary restrictions.
METHADONE (DOLOPHINE)	LC	NO GEL, RED 5.0 ml	3.0 (1.1) ml serum or EDTA plasma. No gel separator tube. REFRIGERATE.
METHYLMALONIC ACID	LC	RED, 5.0 ML	2.0 (0,6) ml serum or heparanized plasma. Separate within one hour. REFRIGERATE.
MHA-TP	LC	RED, 3.0 mL	1.0 mL serum or plasma (EDTA, heparin, or citrate). REFRIGERATE.

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MUMPS VIRUS ANTIBODY IGG	SLI	RED, 3.0 mL	1.0 (0.2) mL serum. REFRIGERATE.
MYASTHENIA GRAVIS PANEL	MML	RED, 5.0 mL	2.0 (0.5) mL serum. REFRIGERATE.
MYCOPLASMA ANTIBODIES, IGG & IGM	LC	RED, 5.0 mL	1.0 (0.5) mL serum. REFRIGERATE. Avoid hemolysis, lipemia and gross bacterial contamination.
MYELIN BASIC PROTEIN	SLI	CSF	2.0 (0.8) mL CSF. FREEZE.
MYOGLOBIN, URINE	LC	RANDOM URINE	10.0 (1.0) mL of an early morning urine or one immediately following exercise. REFRIGERATE.
NEWBORN SCREEN	PH	FILTER PAPER	Public Health filter paper. AMBIENT.
NEURONAL NUCLEAR (HU) ANTIBODIES	LC	RED, 3.0 mL	1.0 (0.5) mL serum. REFRIGERATE.
NITROGEN, TOTAL	MML	24HR URINE	50 mL aliquot of a well mixed 24 hr urine. NO PRESERVATIVES. REFRIGERATE. Record volume.
NORTRIPTYLINE	CNI	NO GEL RED, 7.0 mL	4.0 (1.5) mL serum. DO NOT USE GEL BARRIER TUBE. REFRIGERATE.
ORGANIC ACIDS	LC	RANDOM URINE	10.0 (5.0) ml random urine. FREEZE.
OSMOTIC FRAGILITY	MML	LAV 5 mls	5 ml EDTA whole blood. A normal unrelated control tube collected the same time as the test, must be submitted for each sample. Specimens must be received at testing lab within 72 hours of collection.
OXALATE	LC	24HR URINE	100 mL aliquot of a well mixed 24 hr urine. Collect in 6N HCL. REFRIGERATE.
OXCARBAZEPINE (TRILEPTAL), SERUM	LC	NO GEL RED, 5.0 ML	1.0 (0.3) ml serum or EDTA plasma. REFRIGERATE. Do not use gel barrier tube.
p24 ANTIGEN	SLI	RED, 4.0 MI	2.0 (1.0)mL serum. Ambient.

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PANCREATIC POLYPEPTIDE	CNI	LAV, 5.0 mL	2.0 (0.6) mL plasma. FREEZE. Overnight fasting REQUIRED.
PARAINFLUENZA AB PANEL	LC	RED, 4.0 MI	2.0 mL serum. REFRIGERATE.
PARATHYROID HORMONE IRMA PANEL, PEDIATRIC	CNI	GREEN, 5.0 mL	2.0 (1.0) ml heparinized plasma or serum. FREEZE. Overnight fasting preferred.
PARATHYROID HORMONE RELATED PROTEIN	CNI	SPECIAL TUBE, CALL	Call Referral Lab for special collection tube. Invert tube twice after collection of sample and place tube on ice for transport to the lab. Spin sample in refrigerated centrifuge immediately. 3.0 (2.0) mL plasma. FREEZE.
PARVOVIRUS PANEL	LC	RED, 3.0 mL	1.0 (0.5) mL serum. REFRIGERATE.
PHENELZINE (NARDIL)	CNI	NO GEL RED, 7.0 mL	3.5 (1.5) mL serum. FREEZE. DO NOT USE GEL BARRIER TUBE.
PHENYTOIN (DILANTIN), FREE	CNI	NO GEL RED, 5.0	2.0 (0.7) mL serum. REFRIGERATE. DO NOT USE GEL BARRIER TUBE.
PORPHOBILINOGEN	LC	NO LIGHT RANDOM URINE	10.0 mL random urine. Send random collection to lab IMMEDIATELY. Add 0.5 mL 33% Glacial acetic acid to aliquot. FREEZE. PROTECT FROM LIGHT.
PORPHOBILINOGEN, QUANTITATION	LC	NO LIGHT 24HR URINE	10 mL aliquot of a well mixed 24 hr. urine. Collect in 33% Glacial Acetic Acid. Refrigerate during collection. FREEZE. PROTECT FROM LIGHT.
PORPHYRIN, FRACTIONATED	CNI	NO LIGHT RANDOM	5.0 (2.0) mL random urine. Early AM collection. Add 0.5 g Na ₂ CO ₃ /100ml urine. REFRIGERATE. PROTECT FROM LIGHT.
PORPHYRINS	LC	NO LIGHT 24HR URINE	25.0 mL aliquot of a well mixed 24 hr urine. Collect in 5 grams of Sodium Carbonate or no preservative. PROTECT FROM LIGHT. REFRIGERATE.

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PRIMIDONE/PHENOBARBITAL PANEL	LC	NO GEL RED, 5.0 ML	1.0 (0.3) ml serum or plasma. REFRIGERATE. Do not use gel barrier tube.
PROCALCITONIN, SERUM	MML	RED, 3.0 mL	0.25 (0.1) ml serum. REFRIGERATE.
PROGESTERONE, PEDIATRIC	ES	RED, 3.0 mL	1.0 (0.5) mL serum. FREEZE. Separate within 1 hour.
PROGESTERONE, ADULT	LC	RED, 5.0 ml	1.0 (0.3) ml serum. REFRIGERATE.
PSA, TOTAL AND FREE	LC	RED, 10 ml	5.0 (2.0) ml serum. FREEZE.
PURKINJE CELL(YO) AB	LC	RED, 3.0 mL	2.0 mL serum. REFRIGERATE.
PYRUVATE KINASE SCREEN	MML	YELLOW,5.0 mL	4(1)ml ACD B whole blood. REFRIGERATE. Do not freeze.
PYRUVIC ACID (PYRUVATE)	CNI	ICE,GRAY, 4.0 mL	Collect in pre-chilled gray top tube. Transport to lab immediately on ice. Prepare protein free filtrate. 2.0 mL filtrate. REFRIGERATE.
QUINIDINE, SERUM	LC	NO GEL RED, 5.0 ML	1.0 (0.3) ml serum or heparinized plasma. REFRIGERATE. NO GEL TUBES.

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RENIN, ADULT	LC	LAV, 4.0 mL	3.0 (1.0) mL EDTA plasma. Centrifuge immediately and FREEZE. Do not leave at room temp. Note whether sample is recumbent or upright. Order on patients greater than 21 years of age.
RENIN, PEDIATRIC	ES	LAV, 4.0 mL	2.0 (0.5) mL EDTA plasma. Centrifuge immediately and FREEZE. Don not leave at room temperature. Order only on patients 21 years of age or less.
RESPIRATORY SYNCYTIAL ANTIBODIES	LC	RED, 4.0 mL	2.0 ml serum. REFRIGERATE.
REPEAT NEWBORN SCREEN	PH	FILTER PAPER	Public Health filter paper. AMBIENT.
RISTOCETIN CO FACTOR	MML	BLUE, 7.0 mL	2.0 (1.0) ml Na citrate plasma. FREEZE.
RUBELLA ANTIBODY, IGG	LC	RED, 3.0 mL	1.0 (0.5) mL serum. AMBIENT.
RUBELLA ANTIBODY, IGM	LC	RED, 3.0 ML	1.0 (0.5) mL serum. AMBIENT.
RUBEOLA ANTIBODY, IGG	LC	RED, 5.0 mL	1.0 mL serum. REFRIGERATE.
RUBEOLA ANTIBODY, IGM	LC	RED, 5.0 ML	2.0 ml serum. REFRIGERATE.
SELENIUM	CNI	RED, 4.0 mL	2.0 (1.0) mL serum. POUR serum into trace metal transfer vial with RED label. REFRIGERATE.
SEROTONIN, SERUM	LC	RED, 5.0 ML	2.0(1.5)ml serum. Separate within 30 minutes. FREEZE.
STREPTOCOCCUS PNEUMONIAE ANTIBODIES	SLI	RED, 5.0 mL	2.0 (1.0) mL serum. FREEZE.
STREPTOZYME	LC	RED, 5.0 ml	2.0 ml serum. REFRIGERATE

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STRIATED MUSCLE AB	MML	RED, 3.0 mL	1.0 (0.3) mL serum. REFRIGERATE.
SULFONAMIDE	LC	RED, 10 ml /Urine	4ml serum or urine. AMBIENT.
SULFONYLUREA SCREEN	SLI	RED, 5.0 mL	3.0 (2.0) mL serum. REFRIGERATE. (plasma, whole blood or urine OK)
T3, REVERSE	CNI	RED, 3.0 mL	1.0 (0.5) mL serum. REFRIGERATE.
TESTOSTERONE, FREE AND TOTAL	LC	RED, 5.0 ml	2.0 (1.0) serum. Separate within 1 hour. FREEZE.
TESTOSTERONE, TOTAL	LC	RED, 3.0 mL	0.8(0.3) ml serum. Refrigerate.
TESTOSTERONE, TOTAL PEDIATRIC	ES	RED, 3.0 mL	1.0 (0.5) mL serum. FREEZE. Separate within 1 hour. Order only on patients 21 years of age or less.
TETANUS AB, POST	SLI	RED, 3.0 mL	1.0 (0.5) mL serum. REFRIGERATE.
TETANUS AB, PRE	SLI	RED, 3.0 mL	1.0 (0.5) mL serum. REFRIGERATE.
THIOPURINE METABOLITES	PRO	2-4ml LAV	aka: 6-TG, 6-MMP, Thioguanine. 5.0 ml EDTA whole blood. REFRIGERATE.
THIORIDAZINE-MELLARIL	CNI	NO GEL RED, 5.0 mL	3.0 (2.0) mL serum. FREEZE. DO NOT USE GEL BARRIER TUBE.
THYROGLOBULIN, NICHOLS	CNI	RED, 5.0 mL	2.0 (0.5) mL serum. REFRIGERATE.
THYROGLOBULIN, PEDIATRIC	ES	RED, 3.0 mL	1.0 (0.5) mL serum. FREEZE. Separate within 1 hour.
THYROID AUTOANTIBODIES	ES	RED, 5.0 mL	2.0 (0.5) mL serum. FREEZE. Separate within 1 hour.

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THYROID STIMULATING IMMUNOGLOBULIN	CNI	RED, 5.0 mL	2.0 (0.5) mL serum. FREEZE. Separate within 1 hour.
THYROTROPIN BII	CNI	RED, 3.0 mL	1.0 (0.5) mL serum. REFRIGERATE.
THYROTROPIN RELEASING HORMONE	CNI	SPECIAL TUBE, CALL	2.0 (1.0) mL plasma. FREEZE. Collect in a special PTH-RP tube and gently invert twice. Spin in refrigerated centrifuge.
TOPOMAX, SERUM	LC	RED, 5.0 ML	1.0(0.3) ml serum or EDTA or heparinized plasma. Refrigerate. No gel tubes.
TORCH TITERS, IgG & IgM	LC	RED, 10.0 mL	6.0 (3.0) mL serum. REFRIGERATE. Includes: CMV, Rubella, Toxoplasma, and Herpes IgG & IgM.
TOXOCARA PANEL	LC	RED, 3.0 mL	1.0 (0.3) mL serum. REFRIGERATE.
TOXOPLASMA ABS, IGG & IGM	LC	RED, 5.0 ML	2.0 (1.0) ml serum. AMBIENT.
TRAZADONE (DESYREL)	LC	NO GEL RED, 3.0 mL	2.0 (0.6) mL serum or EDTA plasma. REFRIGERATE. DO NOT USE GEL BARRIER TUBE.
TROFILE CO-RECEPTOR TROPISM	LC	LAV, 2x4 ml	3.0 (2.0) ml EDTA plasma. FREEZE. Must have viral load performed within 2 weeks of Trofile.
TRYPTOPHAN	LC	GREEN, 7.0 ml	4.0 (2.0) ml heparinized plasma. FREEZE.
t-TRANSGLUTAMINASE IGA	LC	RED, 3.0 mL	0.5 (0.3) ml serum. REFRIGERATE.
TULAREMIA TITER	LC	RED, 3.0 mL	1.0 (0.5) mL serum. REFRIGERATE. Avoid gross hemolysis and lipemia.
UREAPLASMA/ MYCOPLASMA CULTURE	LC	VIRAL TUBE	Must be collected in viral transport tube. Specify specimen source. REFRIGERATE.
VALPROIC ACID, FREE	LC	NO GEL, RED 5 ml	2.0 ml serum. Do not use gel separator tube. REFRIGERATE.

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VANILLYMANDELIC ACID (VMA)	ES	24HR URINE	50.0 (10.0) mL of a well mixed 24 hr urine. Collect in 6N HCL. FREEZE. Call lab for dietary restrictions.
VARICELLA ZOSTER ANTIBODIES, IGG	LC	RED, 5.0 MLS	1.0 (0.5) mL serum. AMBIENT.
VARICELLA ZOSTER ANTIBODIES, IGG & IGM	LC	RED, 5 mls	2.0 ml serum. REFRIGERATE.
VASOACTIVE INTESTINAL POLYPEPTIDE	LC	SPECIAL TUBE, CALL	CALL LAB to obtain special collection kit. Collect in chilled lavender top tube. Transfer to red top tube with Trasylol solution. 2.0 (0.4) mL plasma. FREEZE in special transport tube. No radioactive substances 24 hr prior to test. Diet restrictions
VDRL	PH	CSF ONLY!	100 ul minimum CSF. REFRIGERATE.
VERY LONG CHAIN FATTY ACID	LC	LAV, 5.0 mL	5.0 (3.0) mL EDTA whole blood. AMBIENT.
VITAMIN A (RETINOL)	LC	NO LIGHT ICE RED, 5.0	2.0 (0.5) mL serum. Draw into chilled tube. Transport on ice. FREEZE. Split into 2 vials before freezing. PROTECT FROM LIGHT.
VITAMIN B1 (THIAMINE), PLASMA	LC	NO LIGHT, LAV, 2X 4.0	3.0 (2.0) ml EDTA plasma. FREEZE. PROTECT FROM LIGHT.
VITAMIN B6	LC	NO LIGHT, LAV, 4.0 ml	1.0 ml EDTA plasma. Protect from light. FREEZE.
VITAMIN D 1,25 DI(OH), ADULT	LC	RED, 7.0 mL	3.0 (1.2) ml serum. REFRIGERATE.
VITAMIN D 1,25 DI(OH), PEDIATRIC	ES	RED, 10.0 mL	3.0 (1.0) mL serum. FREEZE. Separate within 1 hour.
VITAMIN D 25-OH, ADULT	LC	RED, 3.0 mL	1.0 (0.3) mL serum. REFRIGERATE.

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VITAMIN D 25-OH, PEDIATRIC	ES	RED, 5.0 mL	3.0 (1.0) mL serum. FREEZE. Separate within 1 hour.
VITAMIN E	SLI	NO LIGHT RED, 7.0 mL	2.0 (1.0) mL serum. Divide into two vials. FREEZE. PROTECT FROM LIGHT.
VOLATILE SCREEN	LC	GRAY, 7ml	7 ml Na Fluoride or EDTA whole blood. REFRIGERATE.
VOLATILE SCREEN	LC	RANDOM URINE	15 ml random urine. REFRIGERATE.
VON WILLEBRAND MULTIMER PACKAGE	MML	3 BLUE, CITRATE	2 1.0 mL plasma aliquots. FREEZE -70 C. See MIQ 1 for special instructions.
ZINC	LC	RED, 5.0 mL	2.0 (0.2) mL serum. AMBIENT. Separate within 45 min of collection.
ZONISAMIDE (ZONEGRAN)	LC	RED, 3.0 mL	1.2(0.4)ml serum or EDTA plasma. No gel tubes. Separate immediately. Refrigerate.